

DETECTING AND CAUSING LATENT DEADLOCKS IN MULTI-THREADED PROGRAMS

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ABSTRACT

Methods and systems for analyzing multi-threaded programs are provided. The predisposed execution of multi-threaded programs is modified to cause and detect latent deadlocks. When a thread attempts to acquire a synchronization object, it is determined if the synchronization object was previously held by a thread that subsequently acquired another
10 synchronization object while still holding the first. If this occurred, the thread is suspended and may be awakened by a thread that has acquired the synchronization object. The newly awakened thread may then attempt to acquire a synchronization object that is held by the second thread thereby increasing the likelihood that a latent deadlock will be caused and
15 detected.